TL

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,971	08/28/2003	Matthew T. Starr	47320.0116	1970

20874 7590 04/13/2006

WALL MARJAMA & BILINSKI
101 SOUTH SALINA STREET
SUITE 400
SYRACUSE, NY 13202

EXAMINER	
STOYNOV, STEFAN	

ART UNIT	PAPER NUMBER
2116	

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/604,971	Applicant(s) STARR ET AL.	
	Examiner Stefan Stoynov	**Art Unit** 2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20 and 23-31* is/are rejected.

7)☒ Claim(s) *21 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02/24/2006*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "detection of said transition of said power switch from said OFF state to said ON state" in line 3. There is insufficient antecedent basis for this limitation in the claim because claim 1 recites, "detecting said transition of said power switch between said ON state and said OFF state" (claim 1, line 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 6-10, 18-20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol et al., U.S. Patent No. 5,429,470 in view of Lee et al., U.S. Patent No. 5,815,409.

Re claim 1, Nicol discloses a robotic data storage library with soft power capability, the library comprising: a plurality of storage locations, each location capable of holding at least one data storage element (column 2, lines 18-26, column 4, lines 9-10, FIG. 1 and 2, 13); a data transfer interface for receiving said data storage element and establishing a communication path with said data storage element so that data can be transferred between the data storage element and a host computer (column 2, lines 26-28, column 3, lines 1-6, lines 26-30, column 4, lines 10-13, FIG. 1 and 2, 18); a transport unit for moving said data storage element between one of said plurality of storage locations and said data transfer interface (column 2, lines 34-36, lines 47-49, column 3, lines 1-18, lines 23-30, column 4, lines 10-13, lines 34-38, FIG. 1 and 2, 19 and 20).

Nicol fails to disclose a power supply unit for providing power to a component of the library, a power switch switchable between an ON state and an OFF state, and a power controller for monitoring said power switch for a transition between said ON state and said OFF state and after detecting said transition of said power switch between said ON state and said OFF state, controlling power applied to said component.

Lee teaches a switching mode power supply (SMPS) (FIG. 4, 10) controlled by a remote ON/OFF signal (FIG. 4, Remote ON/OFF Signal) and a control circuit (FIG. 4, 30) incorporating a power ON/OFF switch, switchable between an ON and OFF state (column 4, lines 51-56, column 5, lines 22-25, lines 43-45, FIG. 4, SW311). Lee further

teaches the control circuit monitoring the ON/OFF switch state and when a transition from ON to OFF state is detected, delaying the immediate power supply shutdown and informing the main board that the power was switched off (column 4, lines 45-50, column 5, line 43 – column 6, line 12, FIG. 3). In Lee, the above mentioned circuit and method are used for automatically cutting off power after performing a safe shutdown process even though a power switch was turned OFF due to carelessness of a user or other external factor (column 1, lines 16-22). Thus, file damage and system corruptions are prevented (column 6, lines 18-24).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the power supply and control circuit for detecting the state transition from ON to OFF state of the power switch, and controlling power according to that detection, as suggested by Lee with the robotic data storage library disclosed by Nicol in order to implement a power supply unit for providing power to a component of the library, a power switch switchable between an ON state and an OFF state, and a power controller for monitoring said power switch for a transition between said ON state and said OFF state and after detecting said transition of said power switch between said ON state and said OFF state, controlling power applied to said component. One of ordinary skill in the art would be motivated to do so in order to prevent file damage or corruption of the data storage library component.

Re claim 2, Lee further teaches the library, wherein: said power controller comprises means for terminating the application of power to said component after a fixed amount of time has expired since detecting said transition of said power switch from said ON state to said OFF state.

[Lee does not specifically state power controller comprises means for terminating the application of power to said component after a fixed amount of time has expired since detecting said transition of said power switch from said ON state to said OFF state. However, Lee teaches the power controller issuing the Power Shutdown Signal (i.e. termination of power) after execution of the corresponding interrupt service routine indicating completion of the shutdown process (column 5, line 43 – column 6, line 12). Thus, the delay time for power termination is controlled by the interrupt service routine (i.e. software controlled) and could be fixed or variable. Thus, Lee inherently discloses said power controller comprises means for terminating the application of power to said component after a fixed amount of time has expired since detecting said transition of said power switch from said ON state to said OFF state].

Re claim 3, Lee further teaches the library, wherein: said power controller comprises means for terminating the application of power to said component after a variable amount of time has expired since detecting said transition of said power switch from said ON state to said OFF state.

[Lee does not specifically state power controller comprises means for terminating the application of power to said component after a variable amount of time has expired since detecting said transition of said power switch from said ON state to said OFF state. However, Lee teaches the power controller issuing the Power Shutdown Signal (i.e. termination of power) after execution of the corresponding interrupt service routine indicating completion of the shutdown process (column 5, line 43 – column 6, line 12). Thus, the delay time for power termination is controlled by the interrupt service routine (i.e. software controlled) and could be fixed or variable. Thus, Lee inherently discloses

said power controller comprises means for terminating the application of power to said component after a variable amount of time has expired since detecting said transition of said power switch from said ON state to said OFF state].

Re claim 6, Lee further teaches the library, wherein: said power supply comprises a power input interface for receiving power from a power source and a power output interface for providing power to component of the library (column 4, lines 36-41, FIG. 2).

Re claim 7, Lee further teaches the library, wherein: said power switch comprises a user interface that allows an individual to transition said power switch between said ON state and said OFF state (column 1, lines 16-22, column 3, lines 11-18, column 6, lines 18-24).

Re claim 8, Lee further teaches the library, wherein said power switch comprises an interface that allows an external device to transition said power switch between said ON and said OFF state (column 1, line 22, column 3, line 16, column 6, line 24).

Re claim 9, Nicol and Lee further disclose the library, as claimed in claim 8, wherein: said interface comprises a host computer interface (Nicol, column 7, lines 40-46, FIG. 9, 102) that allows said host computer to transition said power switch between said ON state and said OFF state (Lee, FIG. 4, SW311).

Re claim 10, Lee further teaches the library, as claimed in claim 8, wherein: said interface comprises an uninterruptible power supply interface that allows an uninterruptible power supply to transition said power switch from said ON state to said OFF state (column 4, line 51 – column 5, line 3).

Re claim 18, Nicol discloses a robotic data storage library with soft power capability, the library comprising: a plurality of storage locations, each capable of holding at least one data storage element (column 2, lines 18-26, column 4, lines 9-10, FIG. 1 and 2, 13); a data transfer interface for receiving said data storage element and establishing a communication path with said data storage element so that data can be transferred between the data storage and a host computer (column 2, lines 26-28, column 3, lines 1-6, lines 26-30, column 4, lines 10-13, FIG. 1 and 2, 18); a transport unit for moving said data storage element between one of said plurality of storage locations and said data transfer interface (column 2, lines 34-36, lines 47-49, column 3, lines 1-18, lines 23-30, column 4, lines 10-13, lines 34-38, FIG. 1 and 2, 19 and 20).

Nicol fails to disclose a power supply for providing power to a component of the library, a power switch switchable between an ON state and an OFF state, a power controller for monitoring said power switch for a transition from said On state to said OFF state and after detecting said transition of said power switch from said ON state to said OFF state, issuing a power termination message to said component concerning termination of power applied to said component.

Lee teaches a switching mode power supply (SMPS) (FIG. 4, 10) controlled by a remote ON/OFF signal (FIG. 4, Remote ON/OFF Signal) and a control circuit (FIG. 4, 30) incorporating a power ON/OFF switch, switchable between an ON and OFF state (column 4, lines 51-56, column 5, lines 22-25, lines 43-45, FIG. 4, SW311). Lee further teaches the control circuit monitoring the ON/OFF switch state and when a transition from ON to OFF state is detected, delaying the immediate power supply shutdown and informing the main board that the power was switched off (column 4, lines 45-50,

column 5, lines 43-65, FIG. 3). After turning the switch off, the interrupt generator outputs an interrupt signal (i.e. issuing power termination message) (column 5, lines 52-65). In Lee, the above mentioned circuit and method are used for automatically cutting off power after performing a safe shutdown process even though a power switch was turned OFF due to carelessness of a user or other external factor (column 1, lines 16-22). Thus, file damage and system corruptions are prevented (column 6, lines 18-24).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the power supply and control circuit for detecting the state transition from ON to OFF state of the power switch, controlling power according to that detection, and issuing a power termination message, as suggested by Lee with the robotic data storage library disclosed by Nicol in order to implement a power supply for providing power to a component of the library, a power switch switchable between an ON state and an OFF state, a power controller for monitoring said power switch for a transition from said On state to said OFF state and after detecting said transition of said power switch from said ON state to said OFF state, issuing a power termination message to said component concerning termination of power applied to said component. One of ordinary skill in the art would be motivated to do so in order to prevent file damage or corruption of the data storage library component.

Re claim 19, Lee further teaches the library, wherein: said power controller comprises means for terminating the application of power to said component after a fixed amount of time has expired since issuing said power termination message to said component.

[Lee does not specifically state power controller comprises means for terminating the application of power to said component after a fixed amount of time has expired since issuing said power termination message to said component. However, Lee teaches the power controller issuing the Power Shutdown Signal (i.e. termination of power) after execution of the corresponding interrupt service routine (initiated by the power termination message) indicating completion of the shutdown process (column 5, line 43 – column 6, line 12). Thus, the delay time for power termination is controlled by the interrupt service routine (i.e. software controlled) and could be fixed or variable. Thus, Lee inherently discloses said power controller comprises means for terminating the application of power to said component after a fixed amount of time has expired since issuing said power termination message to said component].

Re claim 20, Lee further teaches the library, wherein: said power controller comprises means for terminating the application of power to said component after a variable amount of time has expired since issuing said power termination message to said component.

[Lee does not specifically state power controller comprises means for terminating the application of power to said component after a variable amount of time has expired since issuing said power termination message to said component. However, Lee teaches the power controller issuing the Power Shutdown Signal (i.e. termination of power) after execution of the corresponding interrupt service routine (initiated by the power termination message) indicating completion of the shutdown process (column 5, line 43 – column 6, line 12). Thus, the delay time for power termination is controlled by the interrupt service routine (i.e. software controlled) and could be fixed or variable.

Thus, Lee inherently discloses said power controller comprises means for terminating the application of power to said component after a variable amount of time has expired since issuing said power termination message to said component].

Re claim 31, Nicol and Lee disclose all claim limitations as per claim 1.

Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol et al., U.S. Patent No. 5,429,470 in view of Dye et al., U.S. patent No. 4,204,249.

Re claim 11, Nicol discloses a robotic data storage library with soft power capability, the library comprising: a plurality of storage locations, each capable of holding at least one data storage element (column 2, lines 18-26, column 4, lines 9-10, FIG. 1 and 2, 13); a data transfer interface for receiving a data storage element and establishing a communication path with said data storage element so that data can be transferred between the data storage element and a host computer (column 2, lines 26-28, column 3, lines 1-6, lines 26-30, column 4, lines 10-13, FIG. 1 and 2, 18); a transport unit for moving said data storage element between one of said plurality of storage locations and said data transfer interface (column 2, lines 34-36, lines 47-49, column 3, lines 1-18, lines 23-30, column 4, lines 10-13, lines 34-38, FIG. 1 and 2, 19 and 20).

Nicol fails to disclose a power supply for providing power to a component of the library, power switch switchable between an ON state and an OFF state, a power controller for monitoring said power switch for a transition from said OFF state to said ON state and, after detecting said transition of said power switch from said OFF state to said ON state, delaying power applied to said component for a period of time after detection of said transition of said power switch from said OFF state to said ON state.

Dye teaches a service subsystem (FIG. 1, SERVICE PROCESSOR 1) and a plurality of subsystems (column 3, lines 25-28, each having its own power supply – FIG. 1, FIRST IO C and LAST IO Z, POWER SUPPLY 5) where the service system controls the power on/off sequencing (column 4, lines 14-20) and monitors the power supply units for the individual subsystems (column 1, lines 42-52, column 2, lines 16-20, column 4, lines 21-24) by collecting analog and digital data from the power supply units (column 2, lines 11-15, column 4, lines 21-24). Dye further teaches a Power System Diagnostic Sequencing and Monitoring Program including a Power System Diagnostics and Power On Sequencing Routine (column 7, lines 25-28). In addition, Dye teaches the Power System Diagnostic consisting of diagnostics routine that monitors the Power On Switch (column 7, lines 31-38) and the Power On Sequencing Routine controlling the powering up for each individual subsystem such that power to the next regulator is applied after a time delay (column 8, lines 12-14, lines 22-26) (i.e. the state of the power switch is monitored and upon detection of it being transitioned from OFF to ON state, powering up in sequence individual subsystems, the power for each subsystem delayed from the previous one). In Dye, the above described system and method allow flexibility for power management control after any of the subsystem's power supplies were replaced (column 1, lines 36-39). Thus, flexibility is achieved and cost and time are saved (column 1, lines 27-39).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the system (including separate power supplies for each subsystem) and method for monitoring the transition from an OFF to ON state of the power switch, and the service subsystem controlling the power on sequencing of the

plurality of subsystems, as suggested by Dye with the robotic data storage library disclosed by Nicol in order to implement a power supply for providing power to a component of the library, power switch switchable between an ON state and an OFF state, a power controller for monitoring said power switch for a transition from said OFF state to said ON state and, after detecting said transition of said power switch from said OFF state to said ON state, delaying power applied to said component for a period of time after detection of said transition of said power switch from said OFF state to said ON state. One of ordinary skill in the art would be motivated to do so in order to achieve flexibility, save cost and time after replacement of the power supply for any of the data storage library components.

Re claim 12, Dye further teaches the library, wherein: said power supply comprises a first power supply comprising a first power output for providing power to said component of the library (FIG. 1, FIRST IO C, Power Supply 5) and a second power supply comprising a second power output for providing power to a second component of the library (FIG. 1, LAST IO Z, Power Supply 5).

Re claim 13, Dye further teaches the library, as claimed in claim 12, wherein said power controller is adapted to sequentially enable said first power output of said first power supply and said second output of said second power supply to provide power to said component and said second component after detecting said transition of said power switch from said OFF state to said ON state (column 3, line 66 – column 4, line 20, column 8, lines 7-26, FIG. 4, column 12, lines 14-19, FIG. 11).

Re claim 14, Dye further teaches the library, as claimed in claim 13, wherein said first power output of said first power supply and said second power output of said

second power supply are electrically connected to a common bus providing power to said component and said second component (column 5, lines 4-8, lines 19-21, FIG. 2).

Re claim 15, Dye further discloses the library, wherein said power controller is adapted to cause a delay in the application of power to said component after detecting said transition of said power switch from said OFF state to said ON state until after applying power to a second component (column 12, lines 1-19, column 11, lines 37-65).

Re claim 16, Dye further discloses the library, wherein: said power controller is adapted to cause a delay in the application of power to said component by controlling an output of said power supply (column 8, lines 7-26, column 12, lines 1-19).

Re claim 17, Dye further discloses the library, wherein: said power controller is adapted to cause said delay in the application of power to said component by communicating with said component via a network (column 3, lines 31-41, lines 46-51, FIG. 1).

Claims 4, 5, 23, 25, 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol et al., U.S. Patent No. 5,429,470 in view of Lee et al., U.S. Patent No. 5,815,409, and further in view of Dye et al., U.S. patent No. 4,204,249.

Re claims 4 and 5, Nicol and Lee disclose the library, as claimed in claim 1.

Re claim 4, Nicol and Lee fail to disclose said power controller comprises means for delaying the application of power to said component for a period of time after detection of said transition of said power switch from said OFF state to said ON state.

Re claim 5, Nicol and Lee fail to disclose said power controller comprises means for sequencing a power output of said power supply with a second power output of a second power supply.

Dye teaches a service subsystem (FIG. 1, SERVICE PROCESSOR 1) and a plurality of subsystems (column 3, lines 25-28, each having its own power supply – FIG. 1, FIRST IO C and LAST IO Z, POWER SUPPLY 5) where the service system controls the power on/off sequencing (column 4, lines 14-20) and monitors the power supply units for the individual subsystems (column 1, lines 42-52, column 2, lines 16-20, column 4, lines 21-24) by collecting analog and digital data from the power supply units (column 2, lines 11-15, column 4, lines 21-24). Dye further teaches a Power System Diagnostic Sequencing and Monitoring Program including a Power System Diagnostics and Power On Sequencing Routine (column 7, lines 25-28). In addition, Dye teaches the Power System Diagnostic consisting of diagnostics routine that monitors the Power On Switch (column 7, lines 31-38) and the Power On Sequencing Routine controlling the powering up for each individual subsystem such that power to the next regulator is applied after a time delay (column 8, lines 12-14, lines 22-26) (i.e. the state of the power switch is monitored and upon detection of it being transitioned from OFF to ON state, powering up in sequence individual subsystems, the power for each subsystem delayed from the previous one). In Dye, the above described system and method allow flexibility for power management control after any of the subsystem's power supplies were replaced (column 1, lines 36-39). Thus, flexibility is achieved and cost and time are saved (column 1, lines 27-39).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the system (including separate power supplies for each subsystem) and method for monitoring the transition from an OFF to ON state of the power switch, and the service subsystem controlling the power on sequencing of the

plurality of subsystems, as suggested by Dye with the robotic data storage library disclosed by Nicol and Lee in order to implement said power controller comprises means for delaying the application of power to said component for a period of time after detection of said transition of said power switch from said OFF state to said ON state and said power controller comprises means for delaying the application of power to said component for a period of time after detection of said transition of said power switch from said OFF state to said ON state. One of ordinary skill in the art would be motivated to do so in order to achieve flexibility, save cost and time after replacement of the power supply for any of the data storage library components.

Re claims 23, 25, and 28-30, Nicol and Lee disclose the library, as claimed in claim 18.

Re claim 23, Nicol and Lee fail to disclose said power supply provides power to said power controller independent of supplying power to said components.

Re claim 25, Nicol and Lee fail to disclose said power controller comprises a network for communicating with said component.

Re claim 28, Nicol and Lee fail to disclose said power controller comprises means for monitoring power output by said power supply.

Dye teaches a service subsystem (FIG. 1, SERVICE PROCESSOR 1) and a plurality of subsystems (column 3, lines 25-28, each having its own power supply – FIG. 1, FIRST IO C and LAST IO Z, POWER SUPPLY 5) where the service system controls the power on/off sequencing (column 4, lines 14-20) and monitors the power supply units for the individual subsystems (column 1, lines 42-52, column 2, lines 16-20, column 4, lines 21-24) by collecting analog and digital data from the power supply units

(i.e. monitoring power outputs from the power supplies) (column 2, lines 11-15, column 4, lines 21-24). Dye further teaches an independent power supply feeding exclusively the power controller (column 3, lines 60-63, FIG. 1, 15) and the plurality of subsystems interconnected in a network (column 3, lines 31-36, FIG. 1). In Dye, the above described system and method allow flexibility for power management control after any of the subsystem's power supplies were replaced (column 1, lines 36-39). Thus, flexibility is achieved and cost and time are saved (column 1, lines 27-39).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the system (including interconnected subsystems), the method for monitoring the power supply outputs (corresponding to the individual subsystems), and the independent power supply providing power for the service subsystem controlling the power on sequencing of the plurality of subsystems, as suggested by Dye with the robotic data storage library disclosed by Nicol and Lee in order to implement said power supply provides power to said power controller independent of supplying power to said components, said power controller comprises a network for communicating with said component, and said power controller comprises means for monitoring power output by said power supply. One of ordinary skill in the art would be motivated to do so in order to achieve flexibility, save cost and time after replacement of the power supply for any of the data storage library components.

Re claim 29, Nicol and Lee disclose all claim limitations as per claim 18. In addition, Nicol further discloses a second plurality of storage locations for storing additional data storage elements (FIG. 2, multiple racks holding storage elements).

Nicol and Lee fail to disclose a second power supply for providing power to a second component of the library; and a slave power controller for receiving a master-slave message from said power controller, wherein said slave power controller controls power applied to said second component of the library after receiving said master-slave message from said power controller.

Dye teaches a service subsystem (FIG. 1, SERVICE PROCESSOR 1) and a plurality of subsystems (column 3, lines 25-28, each having its own power supply – FIG. 1, FIRST IO C and LAST IO Z, POWER SUPPLY 5) where the service system controls the power on/off sequencing (column 4, lines 14-20) and monitors the power supply units for the individual subsystems (column 1, lines 42-52, column 2, lines 16-20, column 4, lines 21-24) by collecting analog and digital data from the power supply units (column 2, lines 11-15, column 4, lines 21-24). Dye further teaches each subsystem having logic circuitry (slave power controller) communicating with the service subsystem (master power controller for power on sequencing for the subsystems – column 4, lines 42-50) over a service bus (column 3, 31-36, FIG. 1, 2). Thus, the master power controller communicates with the salve controllers (within each subsystem) in order to execute the power on sequencing (i.e. the voltage regulators in the subsystems are powered on after receiving the corresponding master to slave message). In Dye, the above described system and method allow flexibility for power management control after any of the subsystem's power supplies were replaced (column 1, lines 36-39). Thus, flexibility is achieved and cost and time are saved (column 1, lines 27-39).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the system (including individual power supplies for each

subsystem, a master power controller, and a plurality slave power controllers) and the method of powering on each of the subsystems after receiving the corresponding message at the salve power controller, as suggested by Bye with the with the robotic data storage library disclosed by Nicol and Lee in order to implement a second power supply for providing power to a second component of the library; and a slave power controller for receiving a master-slave message from said power controller, wherein said slave power controller controls power applied to said second component of the library after receiving said master-slave message from said power controller. One of ordinary skill in the art would be motivated to do so in order to achieve flexibility, save cost and time after replacement of the power supply for any of the data storage library components.

Re claim 30, Lee further discloses the library, as claimed in claim 29, wherein said master-slave message comprises said termination message (column 5, lines 52-65).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol et al., U.S. Patent No. 5,429,470 in view of Lee et al., U.S. Patent No. 5,815,409, and further in view of Goodman, U.S. Patent Appl. Pub. No. 2002/0091807.

Re claim 24, Nicol and Lee disclose the library, as claimed in claim 18.

Nicol and Lee fail to disclose said power controller comprises non-volatile data storage for storing a boot-strap program.

Goodman teaches an automated data storage library having a plurality of interconnected nodes providing the library functionality (paragraph 0017, lines 5-19, Figure 1, 20, 40, 60, 80). Goodman further teaches each node including a non-volatile

memory for storing firmware (paragraph 0019, lines 3-9) and providing boot-strap functionality (paragraph 0022, lines 4-11) as part of the firmware upgrade. In Goodman, the distributed nodal system allows each node to control a particular function in the overall system, rather than a singular controller performing all the functions (paragraph 0004, lines 7-11). Thus, the maintenance and upgrade for the nodal system is simplified and cheaper (paragraph 0005, lines 1-10).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the boot-strap code stored in non-volatile memory within each of the nodes of the automated data storage library, as suggested by Goodman with the robotic data storage library disclosed by Nicol and Lee in order to implement said power controller comprises non-volatile data storage for storing a boot-strap program. One of ordinary skill in the art would be motivated to do so in order to simplify the maintenance and upgrade for the data storage library.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol et al., U.S. Patent No. 5,429,470 in view of Lee et al., U.S. Patent No. 5,815,409, further in view of Dye et al., U.S. patent No. 4,204,249, and further in view of Goodman, U.S. Patent Appl. Pub. No. 2002/0091807.

Re claim 26, Nicol, Lee, and Dye disclose the library as per claim 25.

Nicol, Lee, and Dye fail to disclose said network comprises a Control Area Network.

Goodman teaches a nodal system implementing an automated data storage library where nodes in the library are interconnected via a Control Area Network (CAN) (column 2, paragraph 0017, lines 5-19). In Goodman, the CAN allows each node to

control a particular function in the overall system, rather than a singular controller performing all the functions (paragraph 0004, lines 7-11). Thus, the maintenance and upgrade for the nodal system is simplified and cheaper (paragraph 0005, lines 1-10).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the CAN used within the automated data storage library, as suggested by Goodman with the robotic data storage library disclosed by Nicol, Lee, and Dye in order to implement said network comprises a Control Area Network. One of ordinary skill in the art would be motivated to do so in order to simplify the maintenance and upgrade for the data storage library.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol et al., U.S. Patent No. 5,429,470 in view of Lee et al., U.S. Patent No. 5,815,409, further in view of Dye et al., U.S. patent No. 4,204,249, and further in view of Odaohhara et al., U.S. Patent No. 6,574,740.

Re claim 27, Nicol, Lee, and Dye disclose the library as per claim 25.

Nicol, Lee, and Dye fail to disclose said network comprises Inter Integrated Circuit network.

Odaohhara teaches connecting a power controller with one or more I2C (Inter-Integrated Circuit) bus interfaces for connecting I2C buses used for monitoring and controlling functions of a plurality of devices within the computer (column 7, lines 38-44, Figure 1). In Odaohhara, the power management controller performs the power management within the computer system (column 7, lines 29-32) and is used for dynamically controlling power consumption of an electronic apparatus (column 1, lines

12-13). Thus, the power consumption of a portion of the loads is dynamically adjusted, and thus the power consumption is limited to a lower value (column 1, lines 14-22).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the power management controller connected to various system components via an I2C buses and the method for dynamic power management, as suggested by Odaohhara with the robotic data storage library disclosed by Nicol, Lee, and Dye in order to implement said network comprises Inter Integrated Circuit network. One of ordinary skill in the art would be motivated to do so in order to reduce the power consumption within the data storage library.

Allowable Subject Matter

Claims 21 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Re claim 21, the prior art fails to disclose or suggest, individually and in combination the claimed subject matter of claim 20, wherein "said means for terminating comprises means for changing said variable amount of time from a first value to a second value that is greater than said first value if a request for an extension of time is received from said component before expiration of said variable amount of time when said variable amount of time has said first value".

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8-11, 15-19, and 23-31 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Stoynov whose telephone number is (571) 272-4236. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

SS